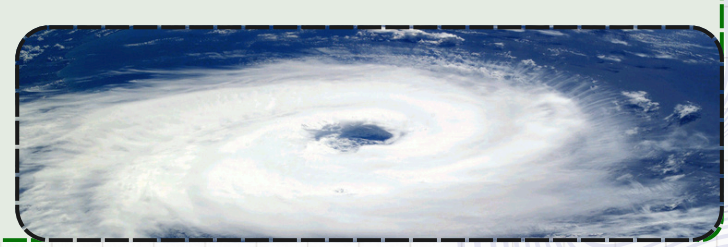
TROPICAL CYCLONE

WHAT IS A TROPICAL CYCLONE?

A rapidly rotating storm system with a low-pressure center, thunderstorms, strong winds, and heavy rain.

Also Known As:

- **Hurricane** (North Atlantic & NE Pacific)
- **Typhoon** (NW Pacific)
- **Cyclone** (South Pacific & Indian Ocean)



STRUCTURE OF A TROPICAL CYCLONE

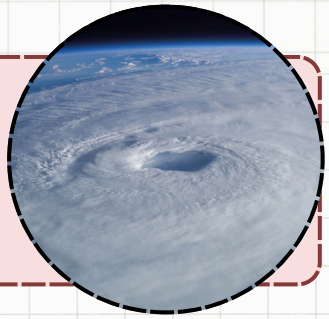
- **Eye:** Calm center with clear skies
- **Eyewall:** Ring of intense thunderstorms surrounding the eye (strongest winds)
- **Rainbands:** Spiraling bands of clouds and rain
- **Outflow:** Upper-level winds that ventilate the storm

HOW DO THEY FORM?

- **Warm Ocean Water** (26.5°C or warmer)
- **Moist Air & Humidity**
- **Low Wind Shear** (minimal change in wind direction/speed)
- **Earth's Rotation (Coriolis Effect)** — helps the storm spin

HAZARDS FROM CYCLONES

- **Storm Surge:** Sea level rise caused by winds and pressure (deadliest!)
- **Heavy Rain & Flooding**
- **Extreme Winds:** Damaging buildings, trees, power lines
- **Landslides:** In mountainous regions



MOST AFFECTED REGIONS

- Caribbean
- Southeast Asia
- Indian Subcontinent
- Gulf of Mexico
- Pacific Islands
- East Africa (Mozambique, Madagascar)

CLIMATE CHANGE CONNECTION

- Warmer oceans = stronger storms
- Slower-moving storms = more rainfall
- Rising sea levels = worse storm surges

CYCLONE CATEGORIES (SAFFIR-SIMPSON SCALE) (FOR HURRICANES)

- **Category 1:** 119–153 km/h (weak)
- **Category 2:** 154–177 km/h (moderate)
- **Category 3:** 178–208 km/h (strong)
- **Category 4:** 209–251 km/h (very strong)
- **Category 5:** >252 km/h (catastrophic)